

(19)



JAPANESE PATENT OFFICE

PATENT ABSTRACTS OF JAPAN

(11) Publication number: **2001144292 A**

(43) Date of publication of application: **25.05.01**

(51) Int. Cl.

H01L 29/78

H01L 29/80

(21) Application number: **11326933**

(71) Applicant: **DENSO CORP**

(22) Date of filing: **17.11.99**

(72) Inventor: **RAJESH KUMAR
YAMAMOTO TAKESHI**

(54) **SILICON CARBIDE SEMICONDUCTOR DEVICE**

MOSFET with withstand voltage.

(57) Abstract:

COPYRIGHT: (C)2001,JPO

PROBLEM TO BE SOLVED: To surely provide withstand voltage to a MOSFET by allowing a plurality of P-N junctions constituting a super-junction to be provided to an element part with sure.

SOLUTION: A super-junction comprises, formed on a main surface 1a of an n⁺ type substrate 1, a plurality of P-N junctions where a plurality of n-type layers 2 and p-type layers 3 are provided alternately on the main surface 1a, with the n-type layers 2 and p-type layers 3, constituting the super-junction formed on the entire surface of main surface 1a of the n⁺ type substrate 1. With the super-junction formed over the entire surface of the main surface 1a of the n⁺ type substrate 1, the super-junction is formed surely under a p-type base region 5 and n-type source region 6, even if the super-junction formation position deviates due to dislocation of a mask, etc., providing surely an

